YCCCART 2010 / Y30
North Somerset HER 2011-073

YATTON, CONGRESBURY, CLAVERHAM AND CLEEVE ARCHAEOLOGICAL RESEARCH TEAM (YCCCART)

Geophysical surveys at Tyntesfield, North Somerset

General Editor: Vince Russett

Gradiometry team at Tyntesfield on 2nd December 2010

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Abstract

YCCCART agreed with the Heritage Lottery Fund to undertake a project over two years commencing May 2009 to establish the extent of the Congresbury Romano British pottery, investigate the archaeology on Cadbury hill fort, Congresbury and its environs and enable equipment to be used by community archaeology groups in North Somerset to identify new archaeological sites in North Somerset.

This survey was requested by members of the National Trust and provided a further training opportunity for YCCCART members. The survey revealed possible demolition rubble from two buildings, a trackway and an enigmatic circular feature.

Acknowledgements

A Heritage Lottery Grant enabled the purchase, by YCCCART, of a Bartington Gradiometer 601 and a Geoscan RM15 Resistance Meter without which this survey could not have been undertaken.

YCCCART wish to thank the National Trust, in particular Mr Robin Childs and Mr Paul Evans (Head Gardener), for their help in completing this survey and providing the historical background documentation.

The authors are grateful for the hard work by the members of YCCCART in performing the survey and Vince Russett for editing this report.

Introduction

Yatton, Congresbury, Claverham and Cleeve Archaeological Research Team (YCCCART) is one of a number of Community Archaeology teams across North Somerset, supported by the North Somerset Council Development Management Team.

The objective of the Community Archaeology in North Somerset (CANS) teams is to carry out archaeological fieldwork, for the purpose of recording, and better understanding of, the heritage of North Somerset.

Site Location

Figure1: Site location Area of survey

Tyntesfield is a Victorian Gothic Revival building, on an estate near Wraxall, North Somerset, in the Vale of Nailsea, seven miles from Bristol. It was acquired by the National Trust in June 2002 after a fund raising campaign to prevent it being sold to private interests and ensure it be opened to the public. The start point for the surveys is at ST350425171440 (Point D on GPS diagram in Appendix 1).

Land use and geology

The geology is Carboniferous Limestone, overlain for much of its area by Keuper Marl and then glacial Head deposits.

The site is a mixture of meadow land and the edge of the formal gardens.

Historical & archaeological context

The current Tyntesfield house is an elaborate development of a building built on the site in 1814 (Bantock 2006:2). There seems to be some dispute as to whether an earlier building, Tynte's Place, was replaced by the 1814 building.

In *Tyntesfield Local Memories and Research* (Wright / Nailsea and District Local History Society 2003:16) Phyllis Horman states that she found a lease dated c 1760 and that "some people have thought that Tyntesfield House was built on the site of Tynte's Place but it will be seen on the lease that a "Saddler's Tenement" is mentioned. This, according to the late Lord Wraxall, was more or less the site where Tyntesfield House was built, not actually on the site of Tynte's Place."

The Ordnance Survey map of 1817 shows a Tints Place Farm

The following is an extract from Archaeological Survey of Tyntesfield by Nick Hanks. (Copyright The National Trust 2003).

"*The Tithe Map of 1837* (Reproduced below at fig 2) *clearly shows the earlier arrangement of the house as square with two small extensions on the north side and two porches on the south and east. It is labelled as "Tyntesfield", but the word "field" appears to have been added in a slightly better hand than that which wrote "Tyntes". The map also shows the Old Rose Garden linked to the house by a wooded plantation. The Parkland, as today, is focused on the land south of Tyntesfield House, and of similar boundaries, though it ran right up to the south side of the house. The buildings beside the road labelled on the earlier map as "Tynte's Place" are labelled on the Tithe map as "799 - Oxstalls, Barn and Yard." So which of the two was the Tynte ancestral home, and which simply a farm is currently unclear. Whatever the former name of these farm buildings they were probably the 'Home Farm' for the Georgian House. There are slight traces of these demolished buildings surviving on the ground, and a holloway leading to them. It was demolished in the mid 19th C."*

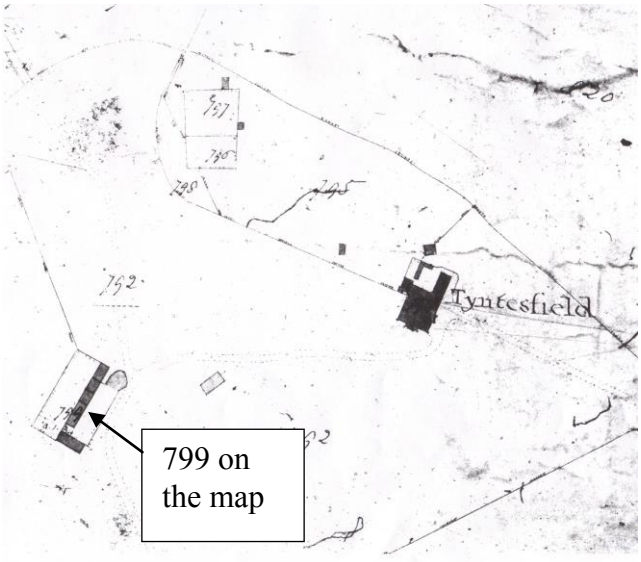


Fig 2: Tithe map of 1837. Courtesy of the National Trust

Survey objectives

The survey had the following objectives.

1) To identify any archaeological features.
2) To use the survey to further train YCCCART members and members of Community Archaeology in North Somerset (CANS) in the use of the Bartington Gradiometer 601 and Geoscan RM15 Resistance Meter.

Methodology

The survey was undertaken during the period 18 November 2010 to January 2011 by YCCCART teams using a Bartington Gradiometer 601 and Geoscan RM15 Resistance Meter, with settings as per the site records in Appendix 1.
The completed survey was downloaded to the ArcheoSurveyor programme and the resultant composite adjusted using the following filters

```
Processes:     4
  1   Base Layer
  2   Clip at 2.00 SD
  3   Despike Threshold: 1 Window size: 3x3
  4   DeStripe Median Traverse: Grids: All
```

N.B.
a) Destripe adjustment only applied to Grad 601 results.
b) Base layer adjustments were Band Weight Equaliser and Grad Shade

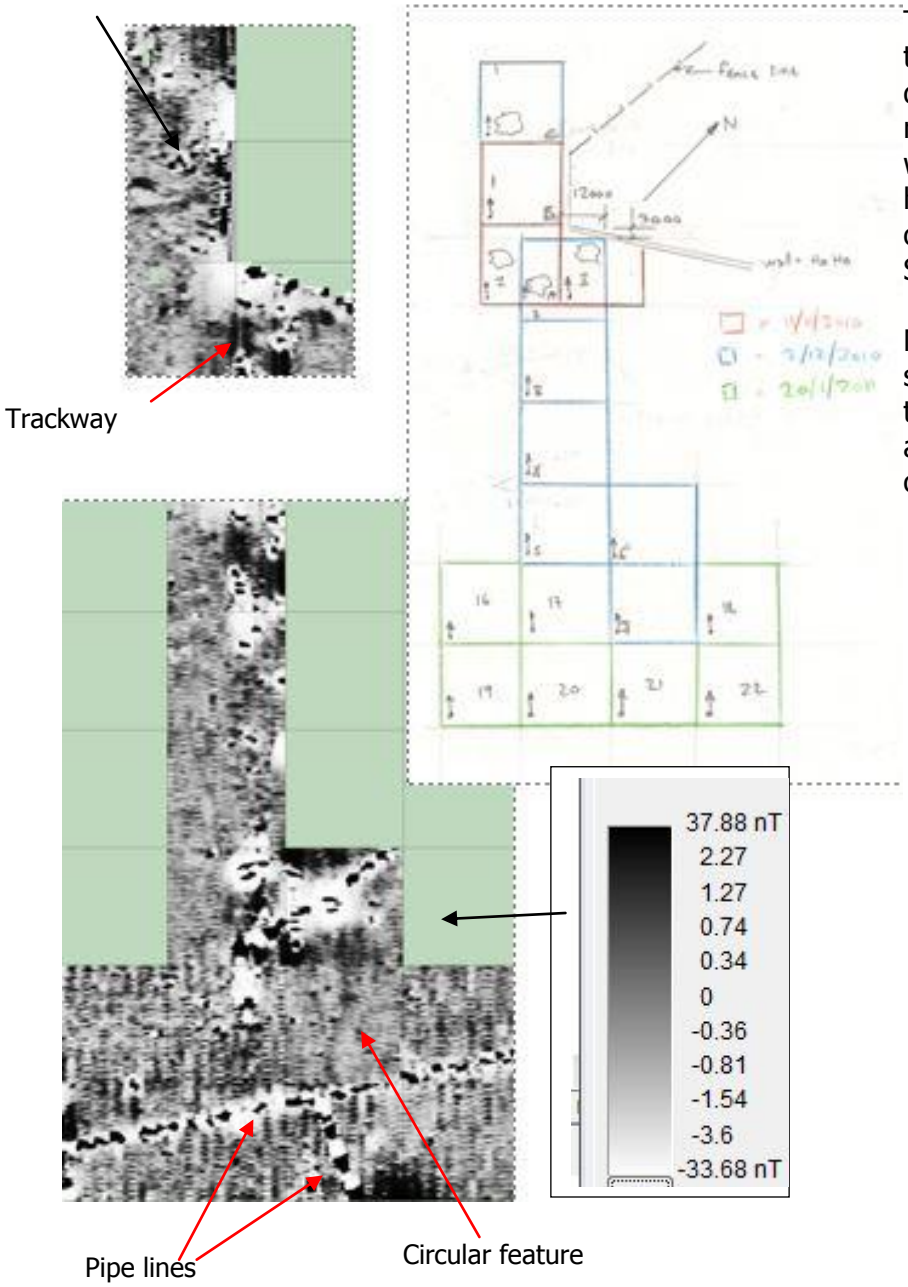
The resistivity survey was also downloaded to a Snuffler programme.

The report was written in Microsoft Word 2003.

Results

Gradiometry survey

Domestic activity

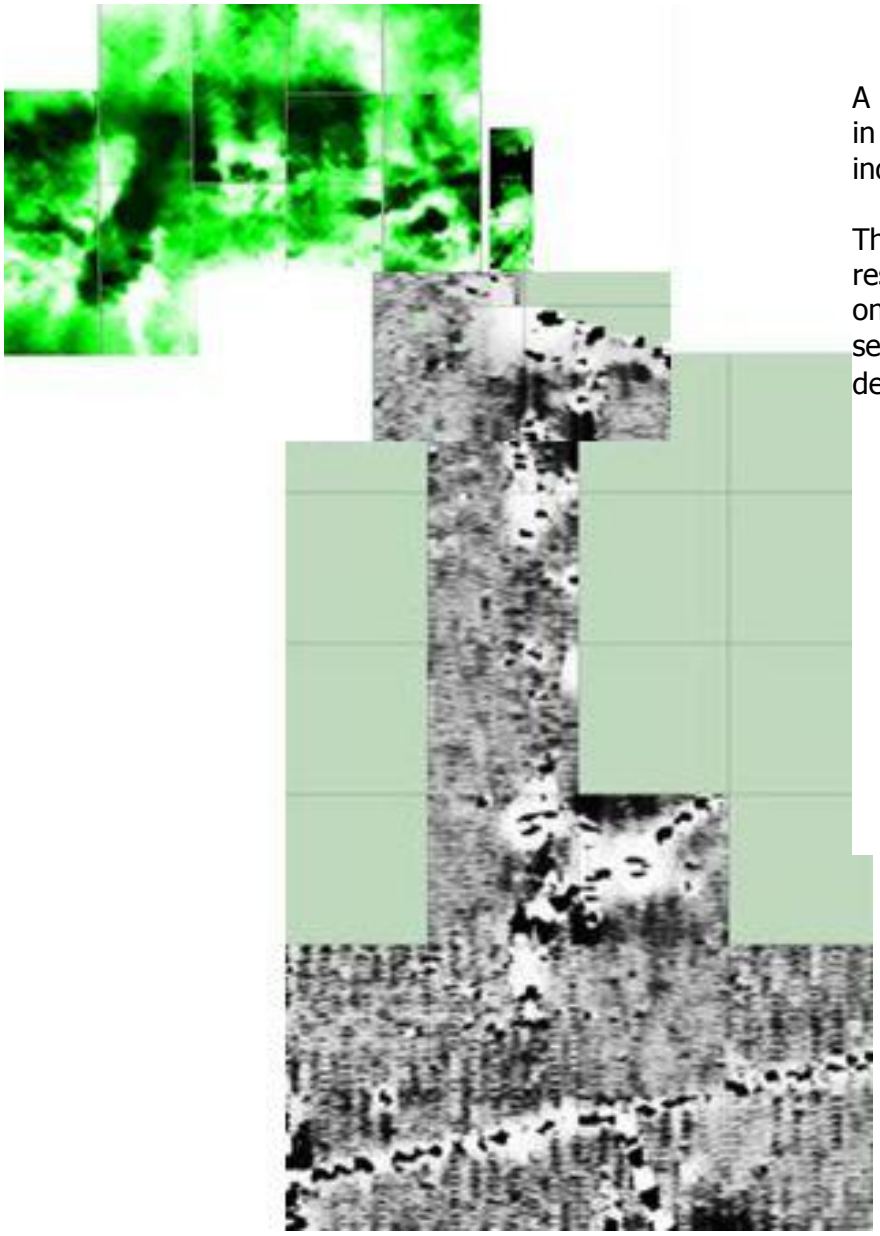


The gradiometer results show to the north, an area of potential domestic activity as well as remains of a track way. The track way was used to run cart loads of house and garden rubbish to a tip or the walled garden.
See photograph in Appendix 3.

Modern pipelines are clearly shown in the southern area together with a circular feature about 30m across, of unknown origin, cut by one of the pipelines.

Fig 3: Gradiometry survey with survey plan (Archaeosurveyor image)

Resistivity survey



A resistivity survey was undertaken in the area of domestic activity indicated in figure 3

The results on the left show the resistivity survey overlaid in green on the gradiometry survey. Please see below (figure 5) for more detail.

Fig 4: Combined gradiometry and resistivity results Archaeosurveyor image.

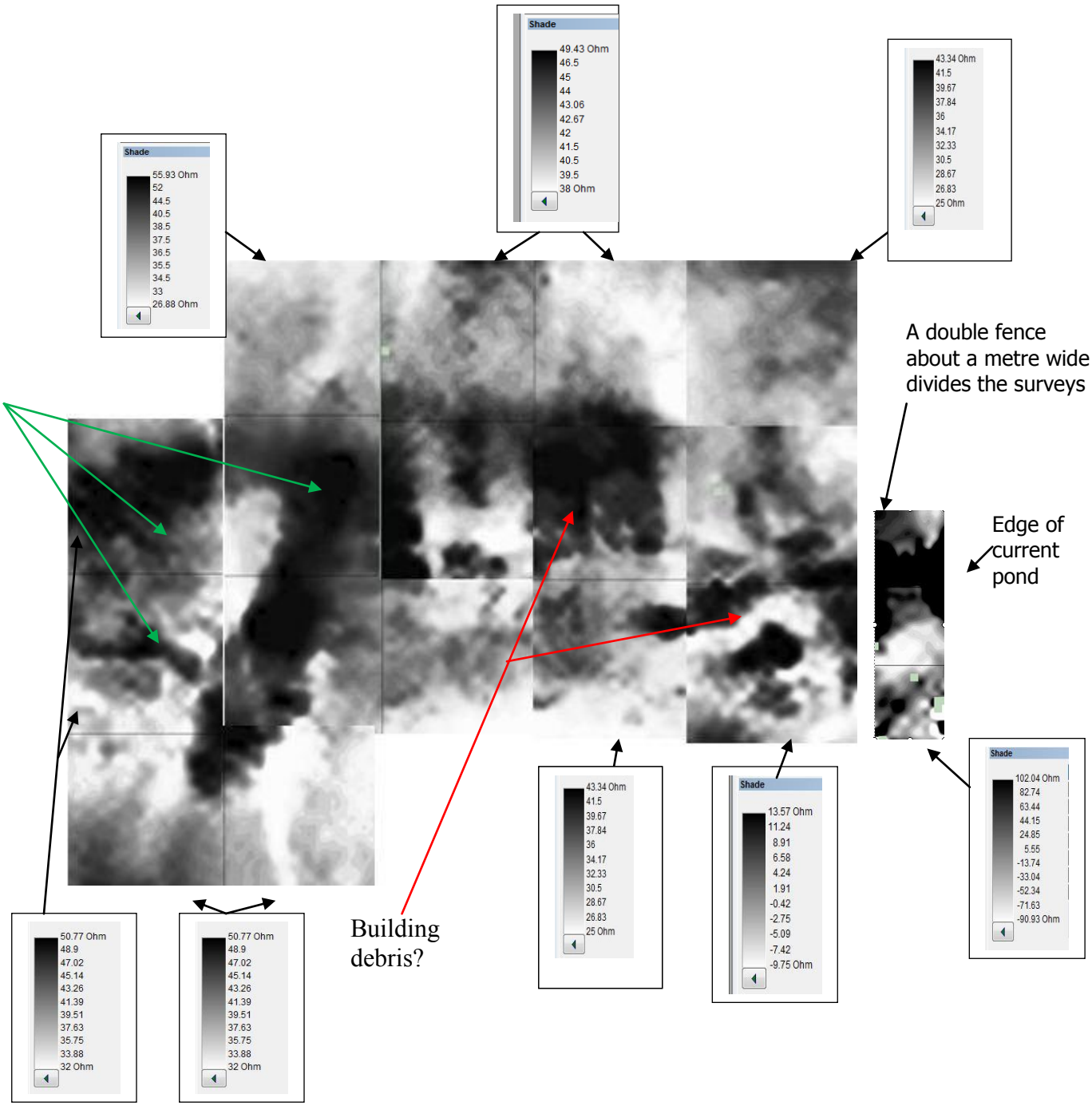


Fig 5: Resistivity results. Archaeosurveyor image

The main areas of interest from the resistivity survey are the potential building debris indicated by high (black) readings per the red arrows above. The other high (black) resolution anomalies indicated by the green arrows are difficult to interpret, although the large high resistance anomaly in the right centre of the survey shows as a parch mark on air photographs from 1991.

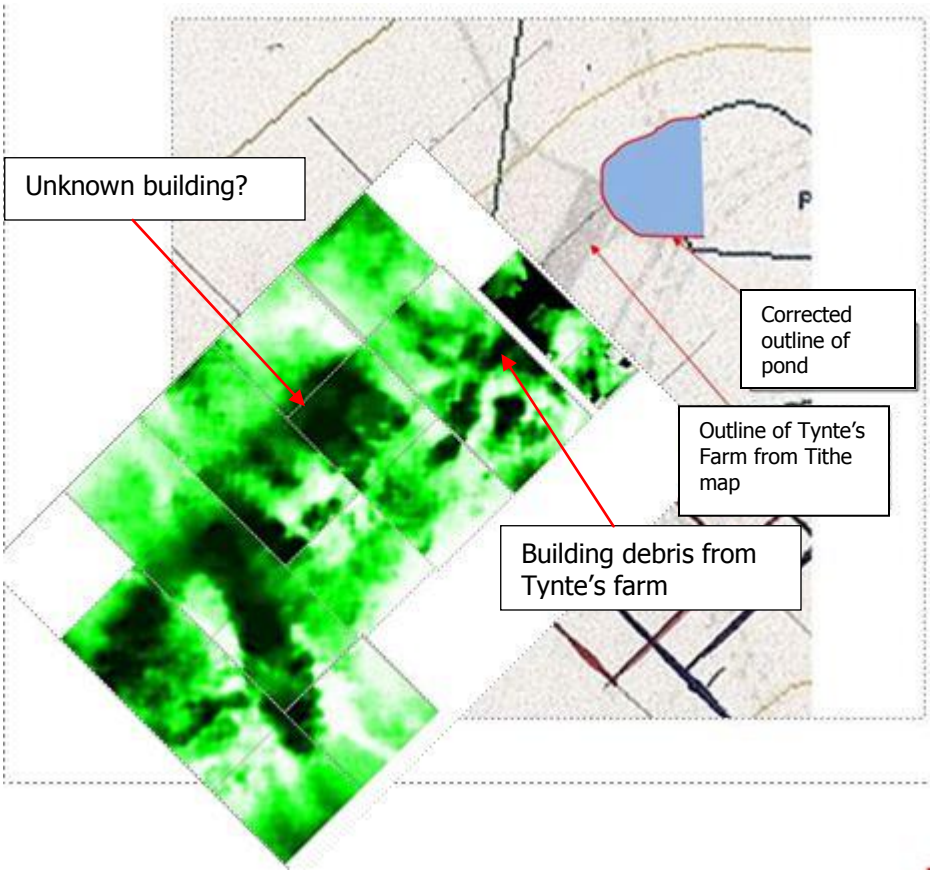


Fig 6: Resistivity results overlaid in green on a map showing the buildings on the 1837 Tithe Map.

The compilation in fig 6 above shows that the possible walls, to the right are in line with 1837 long building (Tynte's Farm) shown on the Tithe map. They are also faintly visible as parch marks on 1991 air photographs in the North Somerset Historic Environment Record. The large north-south anomaly at the southern end of the survey looks far more rectangular as a parch mark, and may be the remains of a further building or other rectangular structure.

There is no indication on the Tithe map of a further building as indicated in fig 6. Is this Tynte's Place?

Recommendations for further work

The main items of interest from the resistivity and gradiometry surveys are the circular feature and trackway shown in fig 3 and the possible buildings shown in fig 6. It is recommended that a small excavation is undertaken on both sites to further investigate and date these features.

References

Bantock, Anton, undated	*Tyntesfield The Inside Story.* Malago Society/University of Withywood publication*. .*
Hanks, Nick 2003	*Archaeological Survey of Tyntesfield*
Wright /Nailsea and District Local History: 2003	*Tyntesfield Local Memories and Research* PENNANT SPECIAL No 8 Originally published June 2003 by Nailsea & District Local History Society. E book version made available in September 2009 on web site http://www.ndlhs.org.uk/ebooks.html

Authors. Chris Short, Colin Campbell & Ian Morton.

Date. April 2011

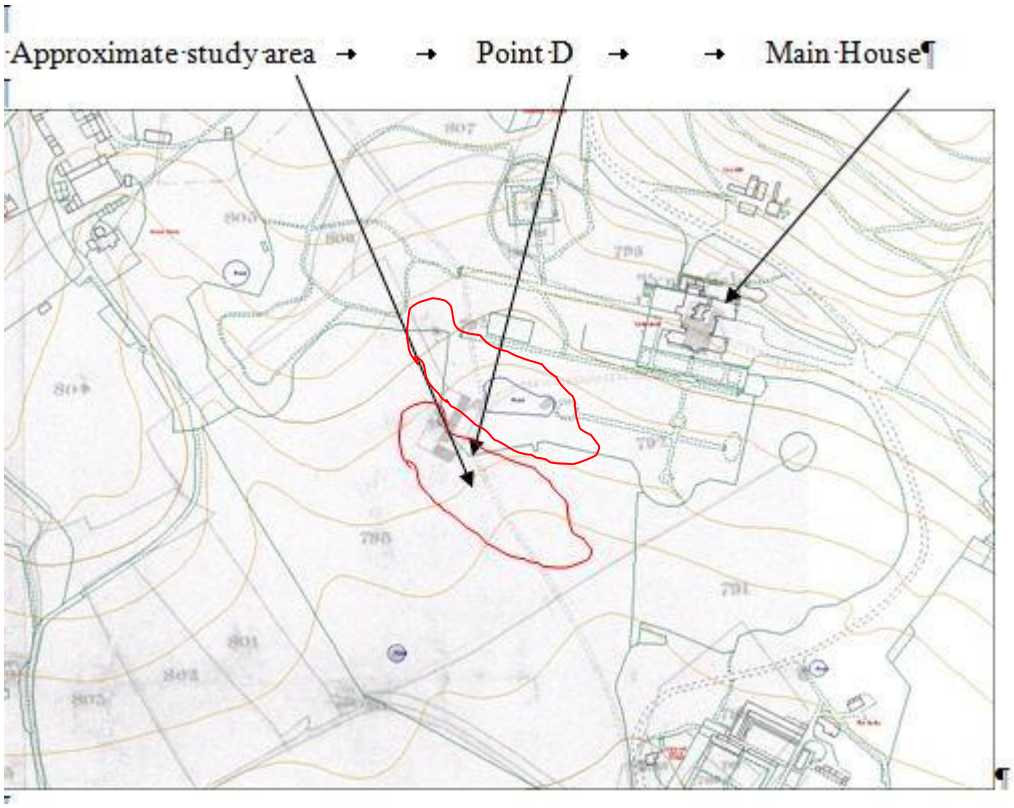
Appendix 1 –Site records

Gradiometry

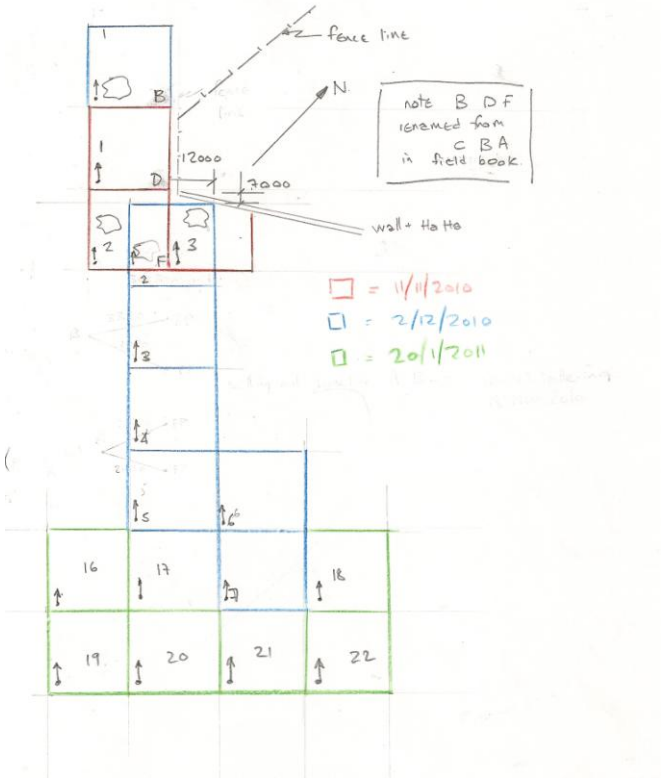
YCCCART Site Survey Project – Tyntes Farm, Tyntesfield National Trust		
Survey date	20th January 2011	
Report date	20th January 2011	
Type /Instrument	Grad 601	
	Pace :1.5m/s Lines/m : 1 Range:100nT Volume: High Sensors:2	Grid size: 30m x30m Pattern : Zig Zag Samples/m:4 Audio: On Threshold:1nT Reject:50 Hz
Location	See appendix A	
Ref	none	
Site name	Tynte Farm Site	
Landowner	National Trust Contract Manager Paul Evans, Head Gardener	
Tenant		
HER ref		
Site type	Open field	
Description	Grass	
Period	Unknown	
Geology	Limestone	
Land use	grazing	
Survey team (total number involved over all survey work)	Peter English, Peter Wright, Brian Bradford, Mike Fox, Ferdi, Brian Bradford, Philippa Cormack, Robin Childs (NT) & Ian Morton	

Survey area			notes		readings		
			size	walk direction	max	min	mean
Grid ref #	18/11/2010	1	30 x 30 m	NW	+74.9	-100.0	-4.3
		2	30 x 30 m	NW	+23.2	-100.0	-2.0
		3	30 x 30 m Mirror and return	NW	+100.0	-100.0	-3.3
Grid Ref #	2/12/2010	1	30 x 30 m	NW	+74.3	-100.0	-4.1
		2	30 x 30 m	NW	+100.0	-98.6	-2.3
		3	30 x 30 m	NW	+100.0	-99.8	-0.9
		4	30 x 30 m	NW	+95.6	-84.0	-1.8
		5	30 x 30 m	NW	+100.0	-100.0	-3.4
		6	30 x 30 m	NW	+100.0	-100.0	-6.9
		7	30 x 30 m	NW	+8.7	-12.3	-2.2
Grid Ref #	20/01/2011 (Note Grids 1 to 15 were from another survey site)	16	30 x 30 m	NW	+99.6	-71.2	+1.7
		17	30 x 30 m	NW	+100.0	_100.0	+1.7
		18	30 x 30 m	NW	+98.3	-64.9	+2.1
		19	30 x 30 m	NW	+100.0	-100.0	+3.2
		20	30 x 30 m	NW	+100.0	-81.1	+2.6
		21	30 x 30 m	NW	+100.0	-100.0	+3.2
		22	30 x 30 m	NW	+45.7	_7.5	+2.2
Summary	Weather:	18/11/2010	bright with light shower				
		2/12/2010	overcast, very cold with ground frozen and patchy snow				
		20/01/2011	bright, sunny, cold with frost on ground)				
		Survey completed (survey previously closed on 2/12/2010 but reopened					
Ian Morton 28/01/2011		Version 1.1					

Grid plan of gradiometry survey



Note: hard material found at point D when driving in setting out pegs.



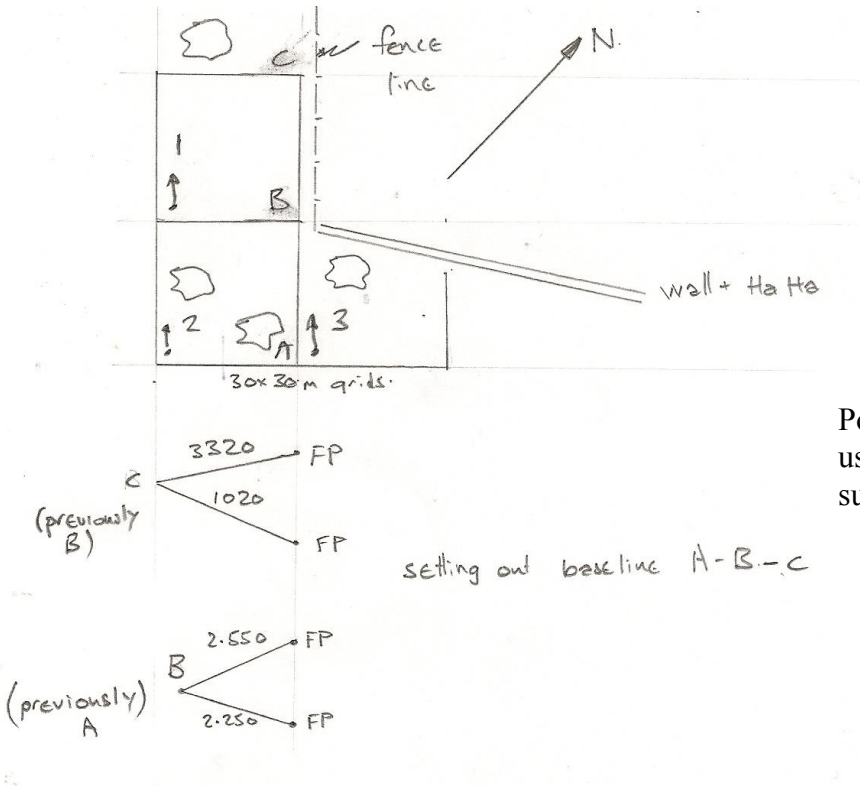
Resistivity

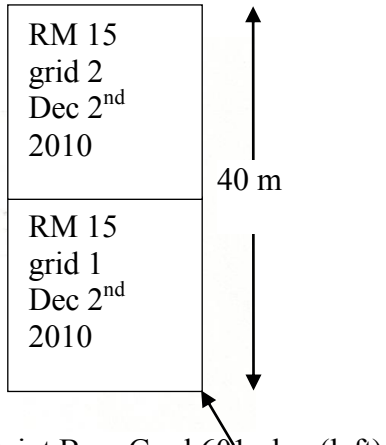
YCCCART Site Survey Project **–Tyne Farm**						
Survey date	2 December 2010 to 4 April 2011					
Report date	April 2011					
Type /Instrument	**RM15**					
	Gain x1, Current 1mA Frequency 137Hz Probes 'Config 1' (2 probes)	Grid size: 20m x20m Pattern : Zig Zag Sample interval 1m Traverse Interval 1m. Mode Zig-Zag				
Weather	2 Dec - Overcast, very cold with ground frozen and patchy snow. 13January - Damp and wet. 20 January - Sunny and cold. Frost 24 February- Overcast but dry. Grass wet. 21March- Overcast. Light rain /drizzle. Grass damp. 4April – Overcast, later sunny. Grass damp.					
OS Ref or Lat-Longitude	ST					
Site name	Tynte Farm Site					
Landowner	National Trust Contract Manager Paul Evans, Head Gardener					
Tenant	None					
HER ref						
Site type	Open field					
Description	Grass					
Period	Unknown					
Geology	Limestone					
Land use	Grazing					
Survey team	*2Dec:Colin Campbell, Chris Short, David Long & Richard Baker* *13 Jan: Colin Campbell, Chris Short & David Long* *20 Jan: Colin Campbell, Chris Short, Unsal Hussan, Richard Baker & David Long* *24 Feb: Colin Campbell, Chris Short, Richard Baker, David Long, Philippa Cormack, Judy Sack & Charlotte Sack , Robert Cleland* *21March: Colin Campbell, Chris Short, David Long, Ian Morton and Anne Dimmock* *4April : Mike Fox, Colin Campbell, Chris Short, David Long, Ferdi, Unsal Hussan and Anne Dimmock*					
Survey area		notes		readings		
		size	walk direction			
2 Dec	Grid 1 Grid 2	1 x 20m 1 x 20m	W W			

13 Jan	Grid 1 Grid 2 Grid 3	1 x 10m 1 x 10m 1 x 10m	W W W			
20 Jan	Grid 1 Grid 2 Grid 3	1 x 20m 1 x 20m 1 x 20m	W W W			
24 Feb	Grid 1 Grid 2 Grid 3	1 x 20m 1 x 20m 1 x 20m	W W W			
21 March	Grid 1 Grid 2 Grid 3 Grid 4	1 x 20m 1 x 20m 1 x 20m 1 x 20m	W W W W			
4 April	Grid 1 Grid 2 Grid 3 Grid 4	1 x 20m 1 x 20m 1 x 20m 1 x 20m	W W W W			
Summary		Downloaded as: ArcheoSurveyor: Tyne Farm grids 2 Dec 1 & 2, Jan 13 1,2 & 3, Jan 20 1, 2 & 3, Feb 24, 1, 2 & 3, March 21, 1 to 4, April 4, 1 to 4. Snuffler: Tyntesfield 1 to 19				

Grid plan of resistivity survey

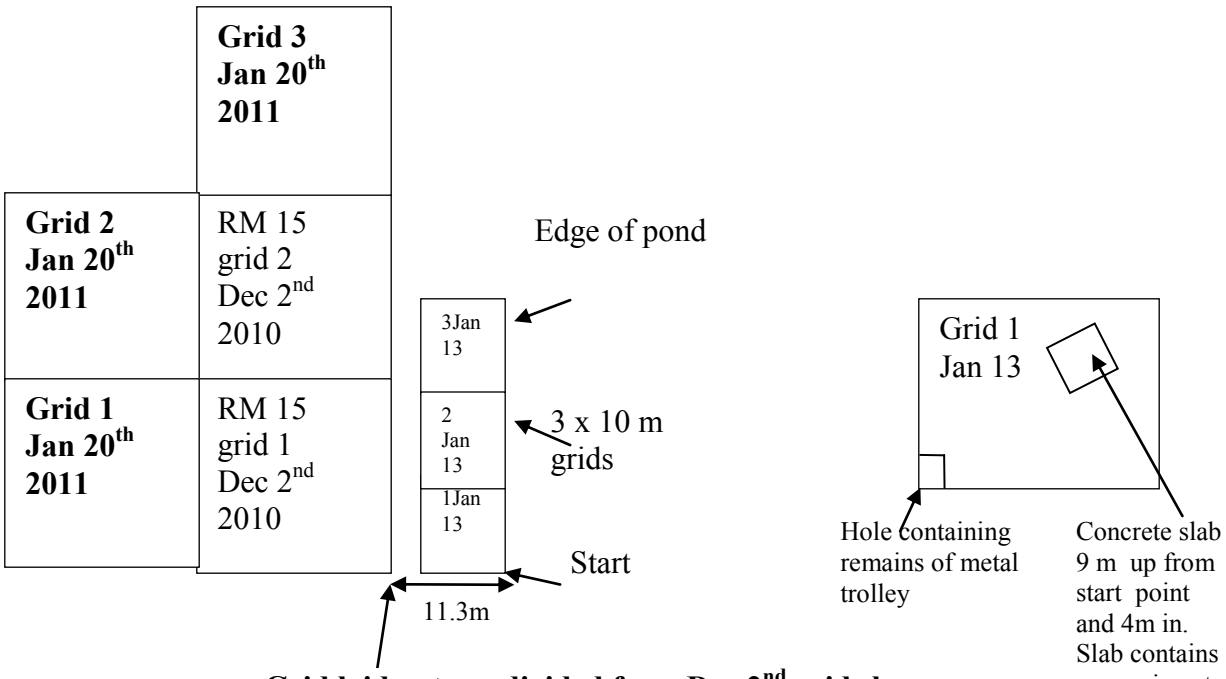
See Grad 601 site records for 18th November 2010, from which diagram below extracted





Point B on Grad 601 plan (left) used as start point for RM 15 survey

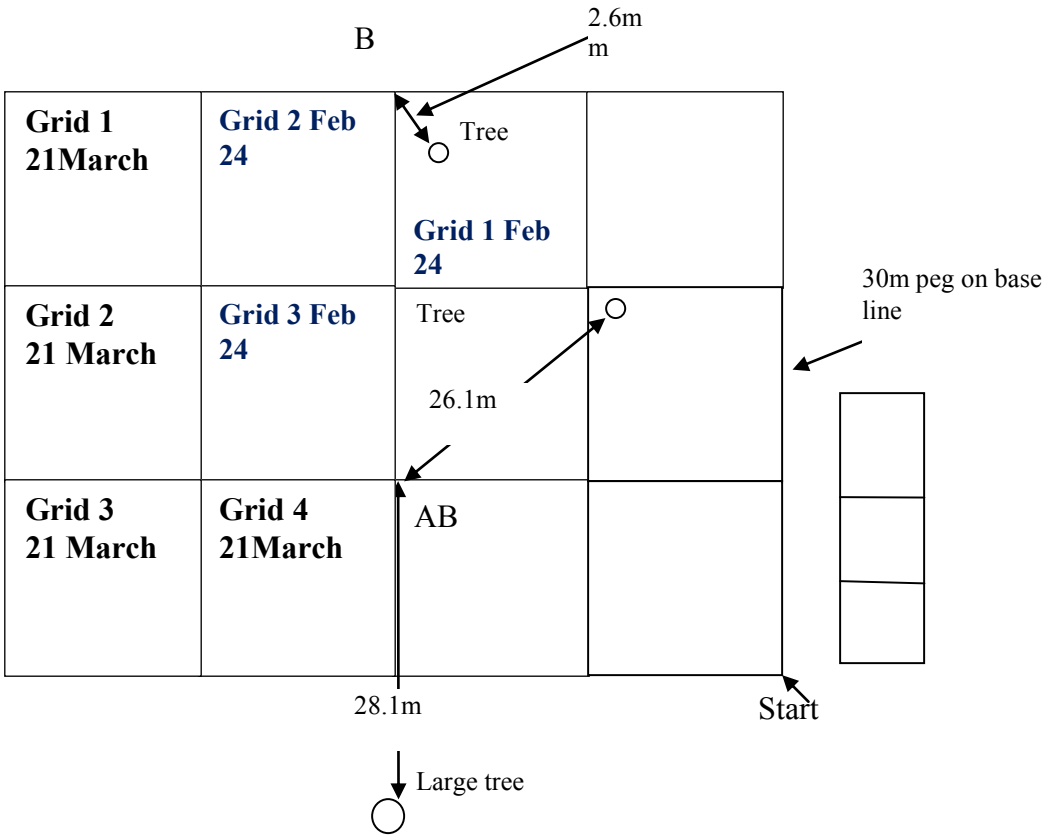
Update 20th January 2011-



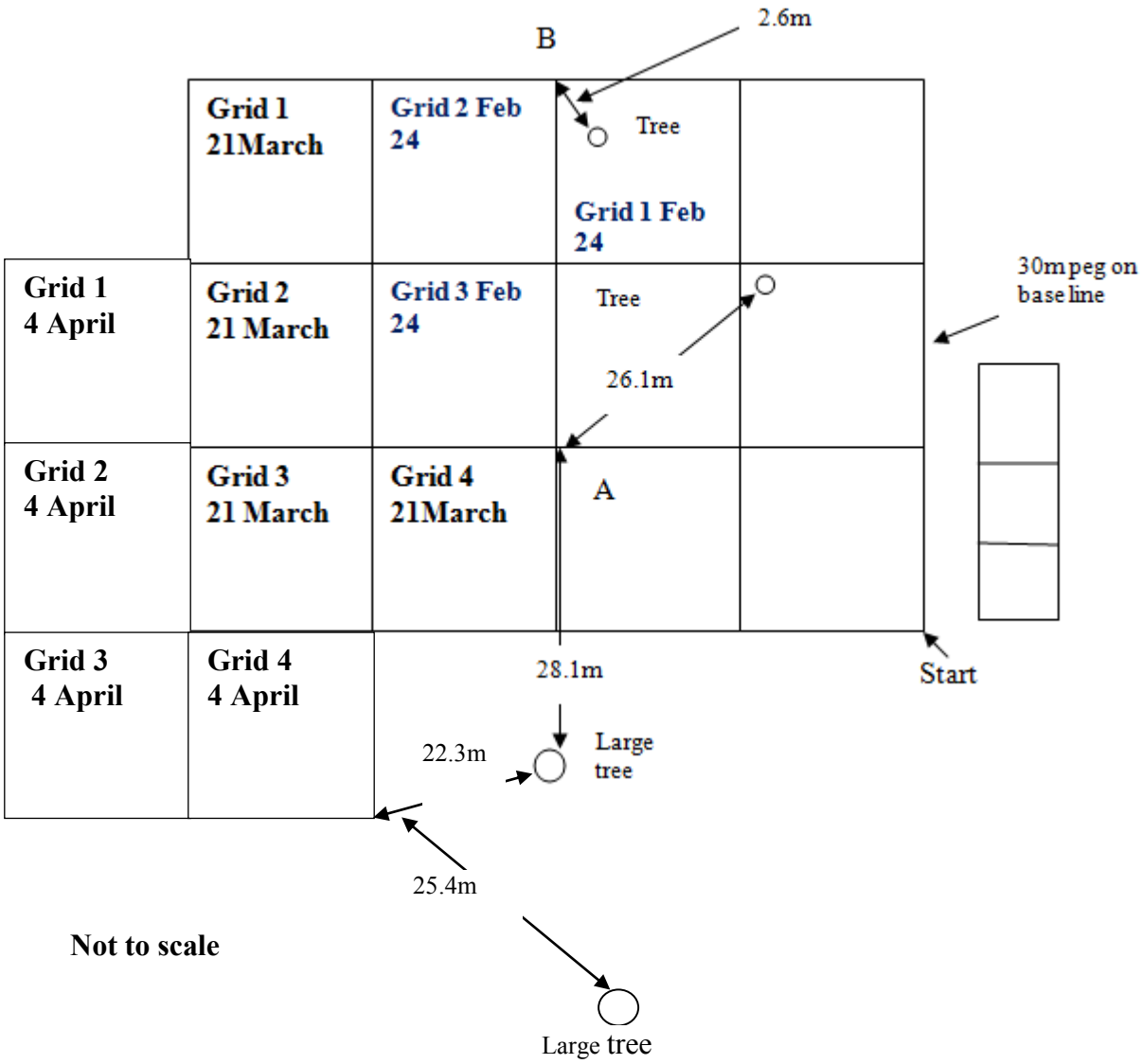
Grid laid out are divided from Dec 2nd grids by double wire fence. The distance from the pond end of the laid out grids to the first fence is 9m. Any results must be adjusted for this gap.

See below for Feb /April 2011 updates

Update to 21 March 2011

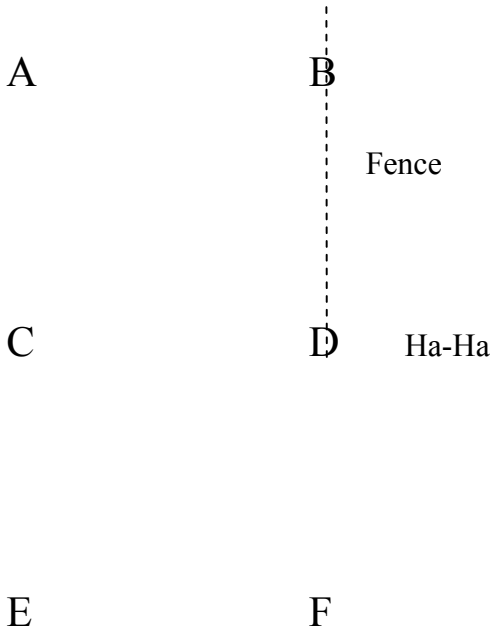


NB. Pegs at Start,30m on base line and point A.


B
2.6m
Grid 1
21March
Grid 2 Feb
24
Tree
Grid 1 Feb
24
Grid 1
4 April
Grid 2
21 March
Grid 3 Feb
24
Tree
30m peg on
baseline
26.1m
Grid 2
4 April
Grid 3
21 March
Grid 4
21March
A
Grid 3
4 April
Grid 4
4 April
28.1m
Start
22.3m
Large
tree
25.4m
Large tree

Not to scale

TYNTESFIELD GPS READINGS



Location	Easting (m)	Northing (m)
A	-	-
B	350412.74	171468.64
C	-	-
D	350425.91	171440.32
E	-	-
F	350438.03	171413.97
G	-	-

Appendix 2

Project design brief for Tyntesfield farmstead Survey

1. Introduction

    a. YCCCART have been invited to assist the staff at Tyntesfield in finding the location of the farmstead which predates the current model farm complex

    b. The staff at Tyntesfield are Paul Evans, Head Gardener and Robin Childs, volunteer.

    c. YCCCART, Yatton, Congresbury, Claverham and Cleeve Archaeological Research Team identifies, records and publishes reports on hitherto unknown archaeological features in the above four villages in North Somerset. Vince Russett, the North Somerset County Archaeologist, set up the team in 2004 and provides advice and support. YCCCART carries out landscape surveys using geophysical equipment and by means of manual surveys. In addition it undertakes archaeological excavations, field walks, visual surveys and recording of features on local buildings. A summary of the work undertaken by YCCCART together with reports published to date can be found on http://ycccart.co.uk.

    d. As a result of a grant from the Heritage Lottery Fund, YCCCART has been able to purchase a Bartington Gradiometer 601 and Geoscan RM 15 Adv. 15000 (version 2) which have been used extensively in the published surveys.

2. Site location

    a. A plan is included at appendix 1 which is an extract from Info map overlaid with the Tithe map. Initial indications from these maps are that the former farmstead remains may have been damaged by the construction of the Ha-Ha and the boating pond in the 1890's. However the Tithe map may be inaccurate due to successive copying and printing but it does give good guidance to the likely location.

    b. The likely site is a mixture of meadow land and the edge of the formal gardens as shown on the plan in appendix 1.

3. Work method

    a. Based upon the map in appendix 1, it is proposed to undertake non-destructive gradiometer surveys using 30m x 30m grids. 9 grids based upon a 3 by 3 square will be undertaken initially i.e. 270m x 270m. The results will be reviewed with the Tyntesfield staff before further work is undertaken. Options which are not exclusive are

        i. Extend the grid pattern

ii. Undertake resistivity surveys on selected areas.

b. It is propose to undertake the work through November 2010 depending on weather conditions.
c. The grids will be set out using wooden ranging poles and plastic tent pegs which will be removed at the end of the survey work. Prior to setting out the grids, some probing may be undertaken using single thin wire rod of approximately 2mm diameter.

Appendix 3 Photographs

The wheels from a trolley used on the track way(Highlighted at fig 3 above) to dispose of household and garden waste.

Unsal taking GPS readings with the RM 15 survey team in the distance

Ian with the Grad 601. Tyntesfield house in the background

Richard (left) and Colin operating the RM 15